4506

4506

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: SOUTHWEST ALASKA

11—5813

DESCRIPTIVE REPORT.

Hydrographic *Sheet No.* "A" 4506

LOCALITY:

ALASKA PENINSULA

Chignik Bay to Offshore Amber Bay

~~VICINITY UNAVERSHAK IS.~~

~~AND~~

~~ENTRANCE CHIGNIK BAY~~

and

Entrance Sitkum Bay

1925

CHIEF OF PARTY:

Clem L. Garner

WWB
MAR 18 1926

~~Division of Hydrography and Topography~~

Division of Charts:

Tide reducers are approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET NO. 4506

Locality: S. W. Alaska

Chief of Party: C. L. Garner in 1925

Plane of reference is M L L W
5.4 ft. on tide staff at Sitkum Bay
6.3 " " " " " Chignik

For reduction of soundings, condition of records satisfactory
except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted
3. Time meridian not given at beginning of day's work.
4. Time (whether A. M. or P. M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G Rude

Chief, Division of Tides and Currents.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET "A".

VICINITY OF UNAVIKSHAK ISLAND, SOUTHWEST ALASKA.
Season 1925.

Instructions dated March 25, 1925.

Clem L. Garner - - Chief of Party.

GENERAL: This sheet covers the area to the eastward of Hydrographic sheet "B" and includes the hydrography of the area for a distance of over fifteen miles south and west of the west end of Sutwik Island, and a small amount of work between Sutwik Island and the mainland executed during the course of other movements during the season.

This sheet is not complete as , on account of uncertainty of weather at the close of the season and also on account of coordinating with other parties on Sutwik Island and Kumlik Island, the area could not be completed in detail as work was done.

DESCRIPTION OF COAST AND ISLANDS: This section of the coast has the same general characteristics as the area to the westward, consisting of rocky, bold, and precipitous shore line, interspersed with a few short sections of sand beaches.

Unavikshak Island is eroded on the south and part of the northwest shore to the extent that the slopes are inaccessible and almost form cliffs although a very narrow sand and boulder beach is usually found at the bottom of them. The island is entirely covered with grass and a fox ranch with headquarters situated on the east side of the northernmmost arm is located here. The small island to the east of Unavikshak Island has very rough and rocky shores, is grass covered with the top third of the highest point forming a cone as seen from the south. There is a small opening with deep water between this and the larger island but as seen from seaward it usually appears as a part of Unavikshak Island. The channel between this and the larger island is not recommended but for small boats with local knowledge.

Cape Kumlik embodies a large headland making out from the Alaska Peninsula between Sitkum and Aniakshak Bays and its south shore has general trend east and west. The land is bold and steep at the waters edge, many places rising to cliffs 100 feet or more in height. These slope back with steep grades to a broken and rough mountain crest with average elevation about 2000 feet. There is a sand beach near the center of this south shore. The most prominent object in this peninsula is a conical peak, the position determined as triangulation station MID, with a very conspicuous grayish landslide on the southwest side and extending from near the top within a few hundred feet of the foot.

The group of rocks of which the crest was located as station BRAM appear as one from the sea but are really separated by sheer cliffs. These rise gently from the west end to BRAM on the east end and highest point where the drop is almost perpendicular to the water. These rocks also extend to the north of the station and culminates in a reef about one-half mile north of station BRAM.

The small islet used as signal COLD is a single gray rock with cliffs on all sides, grass covered on top, with no indications of reefs extending more than 100 meters out.

Kumlik Island, over 1000 feet high, has been described in both topographic and hydrographic reports of other sheets. It is almost black as seen from all directions, very symmetrical in shape with the highest point near the center of the island and a very bold coast line on all sides except to the north where there is a house and fox farm.

Sutwik Island is about thirteen miles long with axis east and west, has very bold shores on the north and rises to an elevation of nearly 1000 feet about one-third of its length from the west end. The south coast is bounded by low lands and marshes with many sharp and detached rocks.

DANGERS: The soundings on this sheet indicate a very broken bottom ranging in depth from 18 to 20 fathoms near the coast to over 100 fathoms at a distance of six to seven miles south of Univakshak Island. Most of the waters are considered safe, however, at safe distance from the coast.

There is an area to the south of signals FLAT TOP and DAN which was not sounded as it is apparently foul. The rock about one mile south by east from FLAT TOP bares at low water. This area could easily be sounded with small boat but being of no commercial importance was not attempted. While the DISCOVERER ran three sounding lines between these rocks and the KATMAI REEF mentioned in the descriptive report for sheet "B", it is a very uneven bottom, the successive soundings often differing by more than 30 fathoms and should not be approached except with caution. There are no evidences, however, of shallower water in this particular area.

As it was not covered in the report for sheet "B" it should be mentioned that KATMAI REEF does not break at all times, and as the kelp is thin and is often difficult to see it should be given a good berth.

The shores of the southeast and east end of Cape Kumlium are particularly foul and vessels navigating here should keep in mid channel or favor the south side toward Univikshak Island which is free of dangers when more than one-half mile from the coast. Several attempts were made at inshore hydrography with the launches during the season but with very unsatisfactory results as they would not function any length of time without breakdown. The area between the ship's work and the shore line was originally intended for the launches and was actually started but had to be omitted for

the reason stated above. It should be explained, however, that the area is commercially unimportant. The Chignik Canneries operate boats in Sitkum Bay and to the eastward using the channel between the mainland and Univikshak Island regularly during the fishing season but rarely go in to the coast in this vicinity.

The entrance to Sitkum Bay has long projecting reefs on both sides of the entrance and these do not break at all stages of the tide though they were always observed to break at low water. The reef extending from Cape Kumlium projects more than a mile off the coast, the outer limits being shown on the sheet. On the opposite side of the channel the reef extends more than two miles from Cape Kumlik and ends in a detached rock which does not always break at low water. The safe channel for entering Sitkum Bay is to steer parallel to and one mile northeast of a line between signal FOX and ANCH.

There are many visable, detached, pinnacle rocks scattered throughout Sitkum Bay and for safety vessels should keep near the center of the bay when entering. It can not be considered safe until dragged.

There are three black, single detached rocks about one mile off the southwest end of Sutwik Island which are apparently clear but should be approached with caution. Some hydrography has been done to the west of them but none inside or to the south.

Although Sutwik Island is covered with grass and alders no hydrography has been done along the south side of the island but is known to be foul for a distance of more than a mile from the coast and navigation is not considered safe if nearer than three miles from the coast.

ANCHORAGES: There are several questionable anchorages included in the area covered by this sheet and none which afford protection from all winds.

During northwest weather anchorage may be had under Cape Kumlium except as mentioned previously the coast is foul for more than one-half mile off the coast and must be approached cautiously.

The DISCOVERER anchored mahy times on the northwest side of Univikshak Island, about 700 meters West by North from signal WOOD (temporary shack and boat skids) in 16 fathoms of water, hard bottom, and found good protection from southeast winds. This is frequently used by small boats for protection from southeasters.

There is no protection in Sitkum Bay from southeasters and except in the northeast arm of the bay northwesters blow with hurricane force in this bay at times.

The small bay on the north shore of Sutwik Island (shown more clearly on the topographic sheet) just south and east of station FISH affords protection from southwest winds only. Enter the middle of the bay on 210° true and anchor in 14 fathoms of water, hard bottom, with the highest rock of the point (FISH) in range with the center of Kumlik Island,

All other anchorages of which there were many can only be made in favorable weather.

CONTROL: The control on this sheet is almost entirely from triangulation stations with excellent fixes.

It should be explained that during the course of the work it was found that the use of station BRAM seemed to change the positions by about 100 meters to the eastward of those secured by other stations. While no actual station was established on this rock it was observed from three triangulation stations and the positions from all triangles check as close as could be expected considering the acute angles involved. It is therefore recommended that a station be established and more accurately determined when work is again taken up in that vicinity in order to settle this point.

CURRENTS: Strong currents were observed between Sutwik Island and the mainland, the strongest being around the west end of the Island and approximating 2.5 knots. When the current is against the wind there are heavy rips making it dangerous for small boats.

Currents off the coast are noticeable but apparently not greater than one knot per hour with general direction northeast and southwest as mentioned in the descriptive report for sheet "B". No actual observations were made during the season.

METHODS AND RESULTS: The conditions outlined under this heading in the report covering sheet "B" apply to this sheet also and reference is made thereto.

Respectfully submitted

Clem L. Garner

Clem L. Garner,
Chief of Party.

Records examined & approved
on my day 8 field work
as shown on Statistics sheet
attached
Clem L Garner

STATISTICS SHEET
to accompany

Hydrographic Sheet No. A

Vicinity of UNIVIKSHAK ISLAND

Date	Letter	Volume	Positions	Soundings	Statute Miles	Vessel
1925						
June 20	A	1	57	120	28.5	Str.DISCOVERER
July 18	B	1	70	194	27.2	"
27	C	1	34	77	12.1	"
30	D	1&2	53	131	24.2	"
Aug 4	E	2	53	137	35.8	"
5	F	2	62	162	37.8	"
6	G	2&3	76	212	42.0	"
17	H.	3	30	77	13.0	"
25	J	3	28	50	10.9	"
26	K	3	44	109	22.5	"
Sept 1	L	3	35	90	12.3	"
2	M	4	75	186	42.5	"
3	N	4	57	163	25.8	"
9	P	4&5	116	311	70.7	"
10	Q	5	88	233	41.5	"
12	R	5&6	105	277	48.8	"
Totals 16		6	983	2529	495.6	Totals

Area in sq. statute miles--214

July 10	a	1	33	33	8.6	Anne W.
11	b	1	58	59	19.1	"
17	c	1	66	67	22.3	"
25	d	1	24	34	7.0	"
30	e	1	45	49	24.3	"
Aug. 4	f	1	77	141	24.5	"
7	g	1	55	64	4.1	"
8	h	1&2	43	62	17.0	"
25	j	2	31	50	3.0	"
Totals 9		2	432	559	129.9	Totals

Area in sq. statute miles - - 424

Section of Field Records

Report on Hydro. sheet No. 4506
Surveyed in 1935
Chief of Party. C. L. Garner.
Surveyed by - Field party.
Protracted by - Clem. L. Garner, L. A. Hubbard & R. L. Shoffner
Soundings plotted by -
Verified and inked by -

1. The records conform to the requirements of the general instructions.
2. The plan and character of the development fulfil the requirement of the general instructions.
3. The plan and extent of development does not satisfy the specific instructions. (Desc. report) (see remarks 9 L.)
4. No system of cross lines was used. When crossings appear the results show a good check except in two instances east of Sutwik Island. (32A and 35A)
5. The usual depth curves can be completely drawn.

6. All ~~instructions and~~ plottings & soundings was done in this office.

7. The junctions with adjacent sheets are satisfactory.

8. Further surveying is required within the area covered by this sheet. (9c. Remarks)

9. Remarks: (a) Natural cuts to reefs and breakers, taken on E day and F day between Cape Kumlik and Cape Kumalium are indefinite. Directions and estimated distances only.

Cut from 6E to breaker. } 8 fm shoal ?
" " 3F " " "
" " 2F " edge of reef. } Reef N of
" " 4F " reef. } Easy

b. The following edges are based upon but one lead reading. Since these soundings appear acceptable they were plotted and inked:

✓ 52 D 21 fm.
✓ 7c 27 "
This is up+down ~~26P-12S~~
51P-52P 34 " ✓
63 G 30 " ✓
50 Q 86 " ✓

68R-69R 5½ fm ✓
104 R 36 " ✓
~~12M-13M 73 "~~ up+down.

Report on H. 4506

Remarks. (Cont'd):

c. 19 fathom sounding between 500 and 510 is questioned by the field party but not rejected, not questioned in record. Only one sheet

at 8P sounding 110 fm. no bottom is questioned by field party but not rejected. not questioned in record. Appears O.K.

d. Poor check appears at 32A where 4 day line crosses (74) 50 fm. sdg. fall on a depth of 72 fm. at 35A and 44Q a sounding of 59 fm. falls on 66 fathoms.

e. More inshore development is needed to complete this sheet. Especially on the east and south shore of Cape Kumlien and the north and east shore of Sutwik Island where no close inshore development was attempted.

Shoal spot south east of Δ Flattop should be developed as well as small group of lesser importance around Unavikshak Island.

Paragraph two in the descriptive report notes that "on account of uncertainty of weather at the close of the season and

Report on H 4506

Remarks (Cont.) 9 e.

coordinating with other parties on Nutwik Island and Kunlek Island the area covered by this sheet could not be completed in detail."

10. Rating of work.

a. Character and scope of surveying. Good

b. Field drafting - (none submitted)

Respectfully submitted

H. E. MacEwan

Draftsman.

May 13, 1927

Reviewed by:

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

July 28, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4506

Off Cape Kumlik and Cape Kumliun, Alaska Pen.

Surveyed in 1925

Instructions dated March 25, 1925 (DISCOVERER)

Chief of Party, C. L. Garner.

Surveyed by C. L. G.

Protracted by C. L. G., R. L. Schoppe, L. S. Hubbard.

Soundings plotted by J. D. Torrey.

Verified and inked by H. E. MacEwen.

1. The records conform to the requirements of the General Instructions.

2. The plan of development satisfies the requirements of the General Instructions.

3. Owing to the incompleteness of the survey due to weather conditions and close of season (see paragraph 2, page 1, descriptive report) the work does not conform to the requirements of the Specific Instructions. There are many places between the 20 and 50 fathom curves where the spacing is approximately one half of what the instructions call for. Split lines should be run here. This is particularly true of the area southeast of Cape Kumlium.

4. The sounding line crossings are generally satisfactory, the differences in some cases being due probably to the uneven bottom.

5. The usual depth curves could be drawn where the work was completed.

6. The protracting only was done by the field party, the soundings having been plotted in the office.

7. The junction with H. 4509 is satisfactory considering the irregular character of the bottom.

   The junction with H. 4508 is satisfactory except southeast of △ Rag where an additional line should be run.

The junctions with H. 4510 and H. 4495 are satisfactory.

The junction with H. 4497 is inadequate. Additional lines are necessary to the east and north of △ Black.

8. Considerable additional work is necessary to complete the work within the limits of this sheet. No attempt will be made to point out all the areas so affected. This can be done by an inspection of the sheet. In addition to that mentioned in paragraphs 3 and 6 above, consideration should be given to the following:

a. A development of all the spots with a depth of 20 fathoms and less where abrupt slopes are indicated.

b. The broken area east and southeast of Cape Kumliun to the 50 fathom curve should if practicable be wire dragged.

c. The work should be extended inshore to Cape Kumliun between H. 4508 and H. 4510.

d. The work should be extended around △ Flat Top (preferably on a larger scale).

e. The area to the north and west of Sutwik Island should be surveyed.

f. The 12 fathom sounding in Lat. 56° 43' 1230 m., Long. 157° 02' 129 m. should be investigated. This is a tube sounding and should be verified with the hand lead.

g. △ Bran should be re-located (See paragraph 4, page 4, descriptive report).

h. The gap in the work on this sheet to the southeast of △ Bran should be surveyed.

i. On account of the importance of the reefs extending from Capes Kumliun and Kumlik, restricting the entrance to Sitkum Bay, it might be well to more accurately define the outer limits of these two reefs. This also seems to be the opinion of the Chief of Party.

9. Attention is called to the following:

Cuts taken to rocks and reefs in the vicinity of Cape Kumliun and Cape Kumlik were somewhat difficult to identify. From a study of all the available data on the various sheets in this

vicinity, including the boat sheets, the following is concluded: (Concurred in by Chief of Party).

a. Cuts from 1 E and 4 F are cuts to the outermost rocks awash of the reef off Cape Kumlik as shown on H. 4510. These cuts pass directly through the plotted positions of these rocks.

b. Cut from 4 F to a bare reef off Cape Kumliun is apparently a cut to the kelp patch shown on T. 4140 in Lat. 56° 33 1/2', Long. 147° 47 1/2'. A rock awash symbol is therefore plotted where the cut crosses the kelp patch. A reef symbol is shown around it as indicated on the boat sheet.

c. Cuts from 3 F and 6 E to "breaker" were assumed to be on the same rock. This rock is plotted as a rock awash on advice of C. L. Garner. Although a 13 fathom sounding from H. 4510 plots about in the same position, it was thought advisable to maintain the position of the rock as located by the cuts, since this is an extremely dangerous reef and boats should be kept a sufficient distance away.

d. Cut from 2 F to "edge of reef " off Cape Kumliun is probably an extension of one of the reefs shown on Topo. 4140. It could not be positively identified and was therefore not used.

10. Character and scope of surveying - incomplete.
Field drafting (protracting) - very good.

11. Reviewed by A. L. Shalowitz, June, 1927.

Approved:

Chief, Section of Field Records (Charts)

When field work is taken up in this vicinity the instructions should include examination of above points and add. rocks required.

L. O. Colbert

Chief, Section of Field Work (H. & T.)

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

4506

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. "A" 4506
4506

State SW. Alaska

General locality . ~~Southwest~~ Alaska Peninsula

Locality . . . ~~Entrance~~ Chignik Bay to Offshore Amber Bay and Entrance Sitkum Bay

Chief of party . . Clem L. Garner

Surveyed by . . Clem L. Garner - others

Date of survey . June 20 - September 12, 1925

Scale 1:60000

Soundings in . . Fathoms

Plane of reference . MLLW

Protracted by C.L.G. - R.L.S. Little L.S.H. Soundings in pencil by . . . . .

Inked by . . . . . Verified by . . . . .

Records accompanying sheet (check those forwarded):

Des. report, X Tide books, X Marigrams, X Boat sheets,

X Sounding books, X Wire-drag books, — Photographs. —

Data from other sources affecting sheet . . . . . .

Remarks: Records are mailed separately.

* No protracting was done on the smooth sheet by the field party. E.O.S.